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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/585,738	07/12/2006	Ooe Masayuki	1270-46327X00	7230
20457 7590 04/14/2011 ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-3873				
EXAMINER HIGGINS, GERARD T				
ART UNIT		PAPER NUMBER		
1785				
MAIL DATE		DELIVERY MODE		
04/14/2011		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/585,738

Applicant(s)

MASAYUKI ET AL.

Examiner

GERARD T. HIGGINS

Art Unit

1785

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 March 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-10 and 12-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-10 and 12-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-940)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date 03/07/2011
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

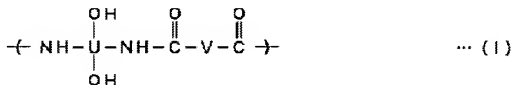
Response to Amendment

- Applicants' amendment filed 03/07/2011 has been entered. Currently claims 1, 2, 4-10, and 12-15 are pending and claims 3 and 11 are cancelled.

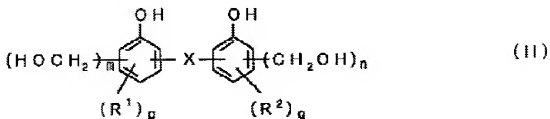
Claim Rejections - 35 USC § 102

- Claims 1, 2, 4-10, and 12-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Tadayuki et al. (JP 2000-305268), machine translation included.

With regard to claim 1, Tadayuki et al. disclose a photosensitive polymer composition [0001]. The composition is comprised of a polyamide of Formula (I), component (a) [0008],



a compound that generates an acid upon light excitation, component (b) [0008], and the compound (II), component (c) [0009]



The subscripts 'p' and 'q' may be zero and the subscripts 'm' and 'n' may be 2 [0009]. The substituent 'X' may be a propylene group or of the type of an alkylidene group, and all of the substituents on said group may be made to be fluorine atoms [0042]. This means that the Examiner clearly envisages Tadayuki et al. at least disclosing a 1,1,1,3,3,3-hexafluoropropyl group, which anticipates applicants' claim 1.

With regard to claim 2, given the disclosure of Tadayuki et al. the Examiner clearly envisages 2,2-bis[3,5-bis(hydroxymethyl)-4-hydroxyphenyl]-1,1,1,3,3,3-hexafluoropropane as claimed.

With regard to claim 4, the component (b) may be 5-100 parts by weight to component (a) [0039] and the component (c) may be 1-30 parts by weight to component (a) [0051].

With regard to claim 5, there may be a component (d) identical to that claimed [0052].

With regard to claim 6, the composition of component (d) is identical to that claimed [0054].

With regard to claim 7, the component (b) may be 5-100 parts by weight to component (a) [0039], the component (c) may be 1-30 parts by weight to component (a) [0051], and the component (d) may be 0.01-30 parts by weight based upon component (a) [0057].

With regard to claim 8, the process of using said photosensitive polymer composition is disclosed at [0061] and [0062]. It includes applying the composition to a

substrate and drying said composition, an exposure process using light [0062], a development process, and then a heat-treating process [0061].

With regard to claim 9, see claim 15 of Tadayuki et al., which discloses said i-line.

With regard to claim 10, the method can be used to form an electronic part containing said composition as an interlayer film or a surface protection film [0001].

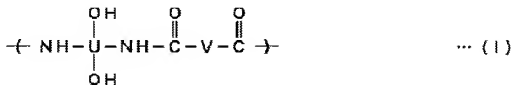
With regard to claims 12 and 13, the amount of component (c) is disclosed at [0051] and includes the preferential ranges of 1-30 and 5-20 parts per 100 parts of component (a), identical to that claimed.

With regard to claim 14, Tadayuki et al. disclose the developing solution at [0062], including alkaline aqueous solutions identical to that claimed (e.g. sodium hydroxide).

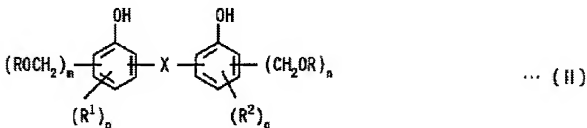
With regard to claim 15, Tadayuki et al. disclose a heat treatment step identical to that claimed at [0063], including 150-450 degree range identical to that claimed.

3. Claims 1, 4-10, and 12-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Tadayuki et al. (JP 2001-312063).

With regard to claim 1, Tadayuki et al. disclose a photosensitive polymer composition [0001]. The composition is comprised of a polyamide of Formula (I), component (a) [0008],



a compound that generates an acid upon light excitation, component (b) [0008], and the compound (II), component (c) [0009]



The subscripts 'p' and 'q' may be zero and the subscripts 'm' and 'n' may be 2 [0009]. The R on the alkoxyethyl group can be 1 to 10 carbon atoms, i.e. 1 carbon atom i.e. methyl [0037]. The substituent 'X' may be a propylene group or of the type of an alkylidene group, and all of the substituents on said group may be made to be fluorine atoms [0038]. The Examiner clearly envisages that Tadayuki et al. disclose a 1,1,1,3,3,3-hexafluoropropyl group, which reads on applicants' claim 1.

With regard to claim 4, the component (b) may be 5-100 parts by weight to component (a) [0036] and the component (c) may be 1-30 parts by weight to component (a) [0041].

With regard to claim 5, there may be a component (d) identical to that claimed [0042].

With regard to claim 6, the composition of component (d) is identical to that claimed [0044].

With regard to claim 7, the component (b) may be 5-100 parts by weight to component (a) [0036], the component (c) may be 1-30 parts by weight to component (a) [0041], and the component (d) may be 0.01-30 parts by weight based upon component (a) [0047].

With regard to claim 8, the process of using said photosensitive polymer composition is disclosed at [0051] and [0052]. It includes applying the composition to a substrate and drying said composition, an exposure process using light [0052], a development process, and then a heat-treating process [0051].

With regard to claim 9, see claim 9 of Tadayuki et al., which discloses said i-line.

With regard to claim 10, the method can be used to form an electronic part containing said composition as an interlayer film or a surface protection film [0001].

With regard to claims 12 and 13, the amount of component (c) is disclosed at [0041] and includes the preferential ranges of 1-30 and 5-20 parts per 100 parts of component (a), identical to that claimed.

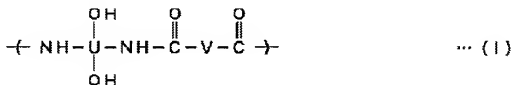
With regard to claim 14, Tadayuki et al. disclose the developing solution at [0052], including alkaline aqueous solutions identical to that claimed (e.g. sodium hydroxide).

With regard to claim 15, Tadayuki et al. disclose a heat treatment step identical to that claimed at [0053], including 150-450 degree range identical to that claimed.

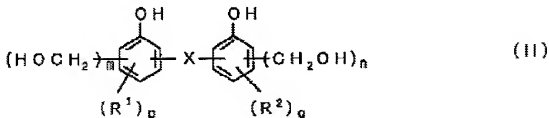
Claim Rejections - 35 USC § 103

4. Claims 1, 2, 4-10, and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tadayuki et al. (JP 2000-305268), machine translation included.

With regard to claims 1 and 2, Tadayuki et al. disclose a photosensitive polymer composition [0001]. The composition is comprised of a polyamide of Formula (I), component (a) [0008],



a compound that generates an acid upon light excitation, component (b) [0008], and the compound (II), component (c) [0009]



The subscripts 'p' and 'q' may be zero and the subscripts 'm' and 'n' may be 2 [0009].

The substituent 'X' may be a propylene group or of the type of an alkylidene group, and all of the substituents on said group may be made to be fluorine atoms [0042]. While the Examiner maintains that the Formula (II) of applicants' claim 1 and the specific compound of claim 2 are clearly envisaged (see section 2 above), the Examiner notes that Tadayuki et al. do not specifically disclose an embodiment where 'p' and 'q' are

zero, a alkylidene group as 'X' that has been perfluorinated (i.e. R^1 and R^2 are a perfluoroalkyl of from 1 to 3 carbon atoms), or the specific compound of claim 2.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made any of the compounds disclosed by Tadayuki et al. including a compound having 'p' and 'q' equal to zero, an alkylidene group as 'X' of from 3 to 7 carbon atoms that has been perfluorinated (i.e. R^1 and R^2 are a perfluoroalkyl of from 1 to 3 carbon atoms), or 2,2-bis[3,5-bis(hydroxymethyl)-4-hydroxyphenyl]-1,1,1,3,3,3-hexafluoropropane as claimed. The motivation for making any of the compounds of Tadayuki et al. is to have a compound that would have increased sensitivity, increase heat resistance, and increase the dissolution rate of an exposed part of the photoresist material [0041].

With regard to claim 4, the component (b) may be 5-100 parts by weight to component (a) [0039] and the component (c) may be 1-30 parts by weight to component (a) [0051].

With regard to claim 5, there may be a component (d) identical to that claimed [0052].

With regard to claim 6, the composition of component (d) is identical to that claimed [0054].

With regard to claim 7, the component (b) may be 5-100 parts by weight to component (a) [0039], the component (c) may be 1-30 parts by weight to component (a) [0051], and the component (d) may be 0.01-30 parts by weight based upon component (a) [0057].

With regard to claim 8, the process of using said photosensitive polymer composition is disclosed at [0061] and [0062]. It includes applying the composition to a substrate and drying said composition, an exposure process using light [0062], a development process, and then a heat-treating process [0061].

With regard to claim 9, see claim 15 of Tadayuki et al., which discloses said i-line.

With regard to claim 10, the method can be used to form an electronic part containing said composition as an interlayer film or a surface protection film [0001].

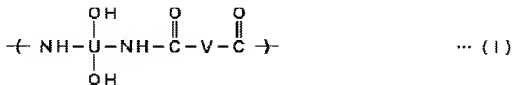
With regard to claims 12 and 13, the amount of component (c) is disclosed at [0051] and includes the preferential ranges of 1-30 and 5-20 parts per 100 parts of component (a), identical to that claimed.

With regard to claim 14, Tadayuki et al. disclose the developing solution at [0062], including alkaline aqueous solutions identical to that claimed (e.g. sodium hydroxide).

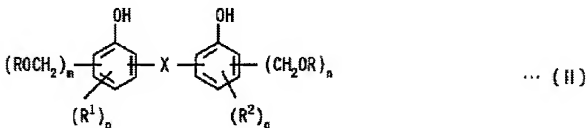
With regard to claim 15, Tadayuki et al. disclose a heat treatment step identical to that claimed at [0063], including 150-450 degree range identical to that claimed.

5. Claims 1, 4-10, and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tadayuki et al. (JP 2001-312063).

With regard to claim 1, Tadayuki et al. disclose a photosensitive polymer composition [0001]. The composition is comprised of a polyamide of Formula (I), component (a) [0008],



a compound that generates an acid upon light excitation, component (b) [0008], and the compound (II), component (c) [0009]



The subscripts 'p' and 'q' may be zero and the subscripts 'm' and 'n' may be 2 [0009].

The R on the alkoxymethyl group can be 1 carbon atom, i.e. methyl [0037]. The substituent 'X' may be a propylene group or of the type of an alkylidene group, and all of the substituents on said group may be made to be fluorine atoms [0038]. While the Examiner maintains that the Formula (II) of applicants' claim 1 is clearly envisaged (see section 4 above), the Examiner notes that Tadayuki et al. do not specifically disclose an embodiment where 'p' and 'q' are zero or an alkylidene group as 'X' that has been perfluorinated (i.e. R¹ and R² are a perfluoroalkyl of from 1 to 3 carbon atoms).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made any of the compounds disclosed by Tadayuki et al. including a compound having 'p' and 'q' equal to zero and an alkylidene group as 'X' of from 3 to 7 carbon atoms that has been perfluorinated (i.e. R¹ and R² are a perfluoroalkyl of from 1 to 3 carbon atoms) as claimed. The motivation for making any

of the compounds of Tadayuki et al. is to have a compound that would have increased sensitivity, increase heat resistance, and increase the dissolution rate of an exposed part of the photoresist material.

With regard to claim 4, the component (b) may be 5-100 parts by weight to component (a) [0036] and the component (c) may be 1-30 parts by weight to component (a) [0041].

With regard to claim 5, there may be a component (d) identical to that claimed [0042].

With regard to claim 6, the composition of component (d) is identical to that claimed [0044].

With regard to claim 7, the component (b) may be 5-100 parts by weight to component (a) [0036], the component (c) may be 1-30 parts by weight to component (a) [0041], and the component (d) may be 0.01-30 parts by weight based upon component (a) [0047].

With regard to claim 8, the process of using said photosensitive polymer composition is disclosed at [0051] and [0052]. It includes applying the composition to a substrate and drying said composition, an exposure process using light [0052], a development process, and then a heat-treating process [0051].

With regard to claim 9, see claim 9 of Tadayuki et al., which discloses said i-line.

With regard to claim 10, the method can be used to form an electronic part containing said composition as an interlayer film or a surface protection film [0001].

With regard to claims 12 and 13, the amount of component (c) is disclosed at [0041] and includes the preferential ranges of 1-30 and 5-20 parts per 100 parts of component (a), identical to that claimed.

With regard to claim 14, Tadayuki et al. disclose the developing solution at [0052], including alkaline aqueous solutions identical to that claimed (e.g. sodium hydroxide).

With regard to claim 15, Tadayuki et al. disclose a heat treatment step identical to that claimed at [0053], including 150-450 degree range identical to that claimed.

Response to Arguments

6. Applicant's arguments filed 09/07/2010 have been fully considered but they are not persuasive.

On page 2-4 of their Remarks, applicants argue that the preferred Examples of Tadayuki et al. '268 and Tadayuki et al. '063 do not teach the compound (c) set forth in present claim 1.

It has been held that "applicant must look to the whole reference for what it teaches. Applicant cannot merely rely on the examples and argue that the reference did not teach others." Please see *In re Courtright*, 377 F.2d 647, 153 USPQ 735,739 (CCPA 1967). The disclosures of Tadayuki et al. '268 and Tadayuki et al. '063 teach applicants' compounds.

Applicants argue on page 3-4 of their Remarks that Tadayuki et al. '268 and Tadayuki et al. '063 describe "a vast number of compounds" and there is not enough specificity for the claimed materials.

The Examiner respectfully disagrees and notes that the above rejections describe where the materials of applicants' claims are clearly set forth and well delineated in Tadayuki et al. '268 and Tadayuki et al. '063. The Examiner has performed his fact finding duties and applicants have not shown where the Examiner has been clearly erroneous in his fact finding. The Examiner maintains his rejections for at least this reason.

Applicants argue on page 5-6 of their Remarks that the comparisons Example 1 and Comparative Example 4 in the specification and in the Declarations show that there are unexpected results using the presently claimed compounds.

First, it is noted that "the arguments of counsel cannot take the place of evidence in the record", *In re Schulze*, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965). As set forth in MPEP 716.02(g), "the reason for requiring evidence in a declaration or affidavit form is to obtain the assurances that any statements or representations made are correct, as provided by 35 U.S.C. 24 and 18 U.S.C. 1001". If the material presented on pages 5-6 of applicants' Remarks is to be considered evidence, it should be in the Declaration.

Second, the Examiner notes that the difference in the exposure energy, throughput, and L-a+b (transparency) do support a contention of unexpected results; furthermore, the specification says that the sensitivity was "not so high". This also does

not support applicants' contention that the difference in sensitivity was unexpectedly good for Example 1. Also, the statement on page 6 of applicants' Remarks that the "difference in the exposure energy results in significant difference in productivity" does not show an unexpected difference. This is further highlighted by Tadayuki et al. '268 (see [0072]) and Tadayuki et al. '063 (see [0066]), wherein they can expose their pattern using a lower energy than Example 1 of applicants' specification. From all of this evidence, applicants' arguments for unexpected results in terms of sensitivity are unpersuasive.

Additionally, Tadayuki et al. '268 talk about increasing the sensitivity and preventing melting at the time of hardening [0041]. This provides further evidence that the difference will not be unexpected since compounds having methylol groups and phenolic hydroxyl groups are known to provide increased sensitivity.

With specific regard to the L-a+b values, applicants have not explained their evidence as to how the difference in the values between Experiments D, E, and F are unexpected and significant differences. It has been held that the burden is on applicants to establish "that the differences in results are in fact unexpected and unobvious and of both statistical and practical significance." Please see MPEP 716.02(b) and *Ex parte Gelles*, 22 USPQ2d 1318, 1319 (Bd. Pat. App. & Inter. 1992). The Declaration does not satisfy this burden.

Lastly, applicants' Declaration is not commensurate in scope with the invention of claim 1. Applicants' Declaration is only commensurate in scope with the invention of claim 2.

After having weighed all of the evidence, the Examiner still maintains that the evidence supporting the *prima facie* case of obviousness outweighs applicants' evidence of unexpected results.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GERARD T. HIGGINS whose telephone number is (571)270-3467. The examiner can normally be reached on M-F 10am-8pm est. (Variable one work-at-home day).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Ruthkosky can be reached on 571-272-1291. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Ruthkosky/
Supervisory Patent Examiner, Art Unit 1785

GERARD T. HIGGINS
Examiner
Art Unit 1785

/G. T. H./
Examiner, Art Unit 1785